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Search Results -

Term	Documents
(28 AND 24).USPT,PGPB.	0
(L28 AND L24).USPT,PGPB.	0

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L32

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Search History

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Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L32	L28 and L24	0	L32
L31	(((435/91.1)!.CCLS.))	2685	L31
L30	(((435/270)!.CCLS.))	172	L30
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L29	(((435/270)!.IPC.))	0	L29
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L28	(((536/25.4)!.CCLS.))	606	L28
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L27	(((435/91.1)!.IPC.))	0	L27
L26	(((536/25.4)!.IPC.))	0	L26
L25	(((436/94)!.IPC.))	0	L25
L24	(silica gel) and L23	286	L24

L23	chromatography and L21	310	L23
L22	(nucleic acid purification)and L20 and L19 and L18	2	L22
L21	L17 and L18 and L19 and L20	349	L21
L20	silica	400227	L20
L19	silicon dioxide	85653	L19
L18	xanthine	9837	L18
L17	nucleic acid	112449	L17
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L16	L12 and l8	0	L16
L15	((435/91.1)!.CCLS.)	2685	L15
L14	((435/270)!.CCLS.)	172	L14
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L13	((435/270)!.IPC.)	0	L13
DB=USPT,PGPB; PLUR=YES; OP=ADJ			
L12	((536/25.4)!.CCLS.)	606	L12
DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
L11	((435/91.1)!.IPC.)	0	L11
L10	((536/25.4)!.IPC.)	0	L10
L9	((436/94)!.IPC.)	0	L9
L8	(silica gel) and l7	286	L8
L7	chromatography and l5	310	L7
L6	(nucleic acid purification)and l4 and l3 and l2	2	L6
L5	l1 and l2 and l3 and L4	349	L5
L4	silica	400227	L4
L3	silicon dioxide	85653	L3
L2	xanthine	9837	L2
L1	nucleic acid	112449	L1

END OF SEARCH HISTORY

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FILE 'BIOSIS, CAPLUS, BIOTECHNO' ENTERED AT 16:47:30 ON 13 JUL 2003
L1        437637 S SILICA
L2          1076 S L1 AND NUCLEIC ACID
L3             8 S L2 AND XANTHINE
L4         88477 S L1(W)GEL
L5           306 S L4 AND NUCLEIC ACID
L6            17 S L4 AND NUCLEIC ACID PURIFICATION
L7             0 S L6 AND XANTHINE
L8             4 S L5 AND XANTHINE
L9          2437 S CHROMATOGRAPHY AND XANTHINE
L10          110 S L9 AND SILICA
L11           74 S L9 AND SILICA GEL
L12           59 DUPLICATE REMOVE L11 (15 DUPLICATES REMOVED)
L13            4 S L10 AND NUCLEIC ACID
L14            4 S SILICON DIOXIDE AND L5
L15            4 S SILICON DIOXIDE AND NUCLEIC ACID PURIFICATION
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L14 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:51620 CAPLUS
DOCUMENT NUMBER: 136:97266
TITLE: Isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**
INVENTOR(S): Weber, Martin; Singer, Thorsten; Cosaert, Sarah
PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004620	A2	20020117	WO 2001-EP8066	20010712
WO 2002004620	A3	20020718		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10033991	A1	20020124	DE 2000-10033991	20000712
EP 1299531	A2	20030409	EP 2001-971766	20010712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRIORITY APPLN. INFO.: DE 2000-10033991 A 20000712
WO 2001-EP8066 W 20010712

TI Isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**

AB The invention relates to a method for isolating **nucleic acids** from a soln., wherein the **nucleic acids** are adsorbed on a surface contg. SiO2 in the presence of alkali halides and alc. The invention also relates to the use of a buffer soln. contg. alkali halides for isolating **nucleic acids** on a carrier contg. SiO2, in addn. to a kit for implementing a method for isolating **nucleic acids** from a soln. The use of alkali metal halides avoids the use of hazardous chaotropic denaturants. Optimization expts. selecting appropriate salts and alcs. and ratios of salt to alc. are reported.

ST **nucleic acid** purifn silica sorbent; alkali halide alc **nucleic acid** purifn; chloride isopropanol ethanol **nucleic acid** purifn

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(C1-5; isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

IT Glass fibers, uses
Silica gel, uses
RL: DEV (Device component use); USES (Uses)
(as sorbent; isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

IT Plasmids
(isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

IT Alcohols, uses
Alkali metal halides, uses
RL: MOA (Modifier or additive use); USES (Uses)
(isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

IT **Nucleic acids**
RL: PUR (Purification or recovery); PREP (Preparation)
(isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

IT Synthetic fibers
RL: DEV (Device component use); USES (Uses)
(quartz, as sorbent; isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxid**)
IT 77-86-1, Tris (buffer) 1132-61-2, MOPS 7365-45-9, HEPES
RL: MOA (Modifier or additive use); USES (Uses)
(as buffer in elution medium; isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)
IT 7631-86-9, **Silicon dioxide**, uses
RL: DEV (Device component use); USES (Uses)
(isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)
IT 64-17-5, Ethanol, uses 67-63-0, Isopropanol, uses 7447-40-7, Potassium chloride, uses 7447-41-8, Lithium chloride, uses 7647-14-5, Sodium chloride, uses 8013-53-4
RL: MOA (Modifier or additive use); USES (Uses)
(isolating **nucleic acids** by selective adsorption and desorption onto **silicon dioxide**)

L14 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:403457 CAPLUS
DOCUMENT NUMBER: 109:3457
TITLE: Chromatographic process and resin preparation for the separation of **nucleic acids**
INVENTOR(S): Riesner, Detlev; Colpan, Metin
PATENT ASSIGNEE(S): Fed. Rep. Ger.
SOURCE: U.S., 8 pp. Cont.-in-part of U.S. Ser. No.560,931, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4699717	A	19871013	US 1986-830708	19860214
DE 3211309	A1	19830929	DE 1982-3211309	19820326
DE 3211309	C2	19900816		

PRIORITY APPLN. INFO.: DE 1982-3211309 19820326
US 1983-560931 19831125

TI Chromatographic process and resin preparation for the separation of **nucleic acids**
AB A process for the chromatog. sepn. of **nucleic acids** using a chromatog. carrier material is described in which the surface of the carrier material is specially modified. **Silica gel** (particle diam. 10 .mu.m, pore size 4000 .ANG.) 50 g was heat and pressure activated, refluxed with .gamma.-glycidooxypropyltrimethoxysilane 100 mL in PhMe for 10 h under N, filtered, washed, and refluxed with N,N-diethylaminoethanol 100 mL and BF3/ether 1 mL for 12 h to give 51.5 g product. Potato spindle tuber viroid RNA from infected plants was chromatog. purified using the weak anion-exchange resin and a gradient elution of increasing KCl concn. in 5M urea, 30 mM K phosphate buffer, pH 6.5. The purified **nucleic acid** was fully active in enzymic expts. (no data).
ST chromatog polymer stationary phase **nucleic acid**; plant virus RNA chromatog; aminosilane silica chromatog polynucleotide; silanized silica chromatog polynucleotide
IT Plasmid and Episome
(DNA of, sepn. of, by chromatog. on aminosilane-modified **silica gel**)
IT Virus, plant

(RNA of, sepn. of, by chromatog. on aminosilane-modified **silica gel**)

IT Deoxyribonucleic acids
RL: ANST (Analytical study)
(sepn. of fragments of, by chromatog. on aminosilane-modified **silica gel**)

IT **Nucleic acids**
Ribonucleic acids
Ribonucleic acids, ribosomal
Ribonucleic acids, transfer
Ribonucleic acids, viral
RL: PROC (Process)
(sepn. of, by chromatog. on aminosilane-modified **silica gel**)

IT **Silica gel**, compounds
RL: SPN (Synthetic preparation); PREP (Preparation)
(aminosilylated, prepn. of, as chromatog. stationary phase for **nucleic acid** sepn.)

IT Nucleotides, polymers
RL: PROC (Process)
(oligo-, sepn. of, by chromatog. on aminosilane-modified **silica gel**)

IT Viroid
(potato spindle tuber, RNA of, sepn. of, by chromatog. on aminosilane-modified **silica gel**)

IT Chromatography, column and liquid
(stationary phases, aminosilane-modified **silica gel**, for **nucleic acid** sepn.)

IT 100-37-8DP, reaction products with glycidyloxypropyltrimethoxysilane and **silica gel** 2530-83-8DP, reaction products with diethylaminoethanol and **silica gel** 7631-86-9DP, **Silicon dioxide**, silanized and anion or cation exchanger-functionalized
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as chromatog. stationary phase for **nucleic acid** sepn.)

L15 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:366091 CAPLUS
DOCUMENT NUMBER: 133:13373
TITLE: Glass-coated particles for the purification of nucleic acids
INVENTOR(S): Harttig, Herbert; Riedling, Michael; Mennig, Martin; Schmidt, Helmut
PATENT ASSIGNEE(S): Institut fuer Neue Materialien Gem. G.m.b.H., Germany; Roche Diagnostics G.m.b.H.
SOURCE: Ger. Offen., 8 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19854973	A1	20000531	DE 1998-19854973	19981130
WO 2000032762	A1	20000608	WO 1999-EP8996	19991123
W: AU, CA, JP, KR, NO, NZ, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1144620	A1	20011017	EP 1999-959300	19991123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002531084	T2	20020924	JP 2000-585393	19991123
NO 2001002620	A	20010727	NO 2001-2620	20010529
US 6545143	B1	20030408	US 2002-856737	20020109
US 2003125542	A1	20030703	US 2003-371375	20030220

PRIORITY APPLN. INFO.: DE 1998-19854973 A 19981130
DE 1998-19855259 A 19981130
WO 1999-EP8996 W 19991123
US 2002-856737 A1 20020109

ST zinc aluminoborosilicate glass DNA RNA purifn; **nucleic acid purifn** zinc aluminoborosilicate glass

IT 1303-86-2, Boron oxide, uses 1305-78-8, Calcium oxide, uses 1344-28-1, Aluminum oxide, uses 7631-86-9, **Silicon dioxide**, uses 12136-45-7, Potassium oxide, uses
RL: DEV (Device component use); USES (Uses)
(glass-contg.; glass-coated particles for purifn. of nucleic acids)

L15 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:172478 CAPLUS
DOCUMENT NUMBER: 126:168786
TITLE: Magnetic pigment
INVENTOR(S): Kleiber, Joerg; Walter, Thomas; Harttig, Herbert; Lesniak, Christoph; Mennig, Martin; Riedling, Michael; Schmidt, Helmut
PATENT ASSIGNEE(S): Boehringer Mannheim Gmbh, Germany; Kleiber, Joerg; Walter, Thomas; Harttig, Herbert; Lesniak, Christoph; Mennig, Martin; Riedling, Michael; Schmidt, Helmut
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9641811	A1	19961227	WO 1996-EP2459	19960606
W: AU, CA, CN, JP, KR, NO, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

DE 19520398	A1	19961212	DE 1995-19520398	19950608
DE 19537985	A1	19970417	DE 1995-19537985	19951012
AU 9663007	A1	19970109	AU 1996-63007	19960606
AU 707115	B2	19990701		
EP 837871	A1	19980429	EP 1996-921935	19960606
EP 837871	B1	20030502		
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE, IE, FI				
JP 11509364	T2	19990817	JP 1997-502593	19960606
AT 239031	E	20030515	AT 1996-921935	19960606
NO 9705772	A	19980206	NO 1997-5772	19971208
US 6255477	B1	20010703	US 1998-952969	19980311
US 2002137920	A1	20020926	US 2001-756743	20010110

PRIORITY APPLN. INFO.:

DE 1995-19520398	A	19950608
DE 1995-19537985	A	19951012
WO 1996-EP2459	W	19960606
US 1998-952969	A3	19980311

ST biol material purifn magnetic pigment particle; **nucleic acid purifn** glass magnetic particle

IT 1303-86-2, Boron trioxide, uses 1309-38-2, Magnetite, uses 1314-23-4, Zirconium oxide, uses 1314-56-3, Phosphorus pentoxide, uses 1317-61-9, Iron oxide (Fe3O4), uses 1344-28-1, Aluminum oxide (Al2O3), uses 7631-86-9, **Silicon dioxide**, uses
RL: NUU (Other use, unclassified); USES (Uses)
(magnetic particles for purifn. of biol. materials)

L13 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:384565 CAPLUS
DOCUMENT NUMBER: 133:28236
TITLE: Methods and compositions for performing an array of chemical reactions on a support surface
INVENTOR(S): Zebala, John A.
PATENT ASSIGNEE(S): Syntrix Biochip, Inc., USA
SOURCE: PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000033084	A2	20000608	WO 1999-US28021	19991123
WO 2000033084	A3	20000810		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000018317	A5	20000619	AU 2000-18317	19991123
EP 1163374	A2	20011219	EP 1999-961813	19991123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002531470	T2	20020924	JP 2000-585669	19991123

PRIORITY APPLN. INFO.:
US 1998-110527P P 19981201
US 1999-326479 A 19990604
WO 1999-US28021 W 19991123

ST support array chem reaction photoresist; ligand array; DNA hybridization immobilized probe; ACE inhibitor screening enalaprilat analog solid phase synthesis; **nucleic acid** array

IT **Nucleic acid** hybridization
(DNA-DNA; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Adhesives
Analysis
Chromatography
DNA sequence analysis
Diagnosis
Drug screening
Electrophoresis
Human immunodeficiency virus
Indicators
Mass spectrometry
NMR spectroscopy
Negative photoresists
Nucleic acid hybridization
PCR (polymerase chain reaction)
Photoresists
Positive photoresists
Protein sequence analysis
RNA sequence analysis
Radiation
Reactors
Solvents
Surface
Synthesis

(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Probes (**nucleic acid**)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Peptide **nucleic acids**
RL: ARG (Analytical reagent use); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT **Nucleic acids**
Polynucleotides
Proteins, general, reactions
Reagents
RL: ARG (Analytical reagent use); DEV (Device component use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Peptides, reactions
RL: ARG (Analytical reagent use); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); ANST (Analytical study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(**nucleic acid** mimics; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT 51-20-7, 5-Bromouracil 51-21-8, 5-Fluorouracil 58-63-9, Inosine 65-71-4, Thymine 66-22-8, Uracil, uses 66-22-8D, Uracil, pseudo-, derivs., uses 68-94-0, Hypoxanthine 69-89-6, **Xanthine** 71-30-7, Cytosine 73-24-5, Adenine, uses 73-40-5, Guanine 141-90-2, Thiouracil 333-49-3, 2-Thiocytosine 443-72-1 504-07-4, Dihydrouracil 554-01-8, 5-Methylcytosine 578-76-7, 7-Methylguanine 591-28-6, 4-Thiouracil 636-26-0, 5-Methyl-2-thiouracil 696-07-1, 5-Iodouracil 938-85-2, 1-Methylguanine 1445-08-5, 2-Methyladenine 1445-15-4 1500-85-2, 7-Deazaadenine 1820-81-1, 5-Chlorouracil 1904-98-9, 2,6-Diaminopurine 2140-73-0, 1-Methylinosine 2365-40-4, N6-Isopentenyladenine 4776-08-3, 3-Methylcytosine 5142-22-3, 1-Methyladenine 6623-81-0, 5-Methoxyuracil 7355-55-7, 7-Deazaguanine 10030-78-1 14631-20-0 14886-75-0 20758-33-2 31458-37-4 72704-66-6 273752-46-8 273752-47-9 273752-48-0 273752-50-4 273752-52-6
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(array of nucleobase polymers contg.; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT 7631-86-9, **Silica**, uses
RL: DEV (Device component use); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:507908 CAPLUS
DOCUMENT NUMBER: 122:265933
TITLE: Preparation of pyranose nucleoside derivatives as antiviral and antitumor agents
INVENTOR(S): Waga, Toshiaki; Meguro, Hiromu; Oorui, Hiroshi
PATENT ASSIGNEE(S): Asahi Breweries Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06263793	A2	19940920	JP 1993-139791	19930304

PRIORITY APPLN. INFO.: JP 1993-139791 19930304
OTHER SOURCE(S): MARPAT 122:265933

AB The title compds. (I; B = adenine, guanine, thymine, uracil, cytosine, hypoxanthine, **xanthine**, 5-methylcytosine, 4-ethoxy-5-methyl-2-oxopyrimidine, 4-isopropoxy-5-methyl-2-oxopyrimidine, 5-methyl-2-oxopyrimidine; R1, R2 = H, OH; or R1R2 = bond; R3 = Q wherein n = 0,1,3; R4 = H, lower alkoxy) or pharmacol. acceptable esters, ethers, or salts thereof are prepd. as antiviral and antitumor agents, particularly potential anti-HIV agents (no data), are prepd. Thus, 2.0 g adenine and 2.0 g K2CO3 were suspended in 100 mL DMF and after stirring at 80.degree. for 1 h, 2.0 g 18-crown-6 ether and Me 2,3-anhydro-4,6-O-benzylidene-.alpha.-D-allopyranoside were added followed by stirring the resulting mixt. at 120.degree. for 16 h to give, after **silica** gel **chromatog**., 91% adenylaltropyranoside deriv. (II; RR = CHPh).

IT 3150-15-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with **nucleic acid** bases in prepn. of pyranose nucleoside derivs. as antiviral and antitumor agents)

L13 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:628477 CAPLUS
DOCUMENT NUMBER: 101:228477
TITLE: Separation of nucleobases on polar amino cyano high-performance liquid **chromatography** columns
AUTHOR(S): Joshua, Henry; Goetz, Michael
CORPORATE SOURCE: Merck Sharp and Dohme Res. Lab., Rahway, NJ, 07065, USA
SOURCE: Journal of Chromatography (1984), 303(1), 185-9
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English

TI Separation of nucleobases on polar amino cyano high-performance liquid **chromatography** columns

AB The use of a polar amino cyano (PAC) HPLC column in conjunction with buffered water-acetonitrile (8:92) eluents affords a viable alternative to the std. reversed-phase, **silica** gel and ion-exchange methods for the **chromatog**. sepn. of nucleobases. A Whatman PAC column (Partisil PXS 5/25 PAC, 25 cm .times. 4.6 mm, 5 .mu.m particle size) was used equipped with an Upchurch C-130 precolumn packed with Whatman Co-Pell PAC 30-38 .mu.m particles. Seven nucleobases (adenine [73-24-5], cytosine [71-30-7], guanine [73-40-5], hypoxanthine [68-94-0], thymine [65-71-4], uracil [66-22-8], and **xanthine** [69-89-6]) were successfully sepd. Changes in the eluent pH values were found to affect the selectivity and capacity factors for the nucleobases. Thus effects were esp. pronounced with **xanthine**. The method is useful for the sepn. of nucleobases from fermn. broth exts.

ST **nucleic acid** base sepn polar HPLC; amino cyano **chromatog** adenine cytosine guanine

IT Fermentation
(**nucleic acid** bases, sepn. after, by polar aminocyano high-performance liq. **chromatog**.)

IT **Nucleic acids**
RL: PROC (Process)
(bases, sepn. of, from fermn. broth by polar amino cyano high-performance liq. **chromatog**.)

IT **Chromatography**, column and liquid

(high-performance, **nucleic acid** bases sepn. from fermn. broth by, on polar amino cyano stationary phase)

IT 65-71-4 66-22-8, analysis 68-94-0 69-89-6 71-30-7 73-24-5, analysis 73-40-5
RL: PROC (Process)
(sepn. of, from fermn. broth by polar amino cyano high-performance liq. **chromatog.**)

L13 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1968:48556 CAPLUS
DOCUMENT NUMBER: 68:48556
TITLE: Mode of action of the chemosterilants, 2-imidazolidinone and 4-imidazolin-2-one, in the housefly and in the large milkweed bug
AUTHOR(S): Schaefer, Charles Herbert
CORPORATE SOURCE: Shell Develop. Co., Modesto, CA, USA
SOURCE: Life Sciences (1967), 6(24), 2677-83
CODEN: LIFSAK; ISSN: 0024-3205
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An anal. method was developed for detecting 2-imidazolidinone (I) and 4-imidazolin-2-one (II) in insect tissues and feces after injection of 5 .mu.g. I or II into female houseflies or large milkweed bugs, Oncopeltus fasciatus. Insects were homogenized and the homogenate or feces were extd. with MeOH. After evapn., the residue was added to a H2O-CHCl3 mixt., centrifuged, the aq. phase extd. with CHCl3, sepd., and evapd. onto **silica** gel. Exts. were subjected to column **chromatog.** and thin-layer **chromatog.** Excretion plus metabolism eliminated 84% of a 5-.mu.g. dose of I and 76% of II within 24 hrs. after injection into houseflies; these 2 compds. are temporary sterilants in this species. The nature of the metabolites of either compd. was not detd. Large milkweed bugs were apparently unable to detoxify either compd. and there was no trace of either in the feces at 48 hrs. after injection; both I and II produce permanent sterility in this species. An attempt was made to det. the mode of action of II in houseflies by feeding the lowest level that inhibited reproduction in the presence of potential reversers; none of the natural biochem. intermediates tested (vitamins, glycine, histamine, inosinic acid, orotic acid, cytidine, adenine, cytidylic acid, adenylic acid, deoxyadenosine, **xanthine**, RNA, oleic acid, .beta.-sitosterol, and cholesterol) had any effect on the sterilant activity of II. No synergism was apparent when either compd. was fed in the presence of 0.2% sesamex or when II was given in the presence of 1% H3BO3. II may inhibit the formation of complex mols. such as proteins or **nucleic acids** rather than that of simple mols.; the mode of action of II is complex and may also involve interference with endocrine regulation.

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=> s silica
L1      437637 SILICA

=> s l1 and nucleic acid
   2 FILES SEARCHED...
L2        1076 L1 AND NUCLEIC ACID

=> s l2 and xanthine
L3           8 L2 AND XANTHINE

=> d ibib kwic 1-8 l3

L3   ANSWER 1 OF 8  CAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:90055  CAPLUS
DOCUMENT NUMBER:          136:131252
TITLE:                    Cationic materials and methods for covalent bonding
                          nucleic acids to high purity
                          silica surfaces
INVENTOR(S):              Lyles, Mark B.
PATENT ASSIGNEE(S):       USA
SOURCE:                   PCT Int. Appl., 9 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2002008237      A2   20020131       WO 2001-US23079  20010720
     WO 2002008237      A3   20021107
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
             RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ,
             VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2001076023      A5   20020205       AU 2001-76023    20010720
     US 2002103350      A1   20020801       US 2001-910697   20010720
     EP 1305328         A2   20030502       EP 2001-953590   20010720
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
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NEWS 6	Feb 26	PCTFULL now contains images
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NEWS 15	Apr 28	RDISCLOSURE now available on STN
NEWS 16	May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 17	May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 18	May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 19	May 19	Simultaneous left and right truncation added to WSCA
NEWS 20	May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 21	Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 22	Jun 06	PASCAL enhanced with additional data
NEWS 23	Jun 20	2003 edition of the FSTA Thesaurus is now available
NEWS 24	Jun 25	HSDB has been reloaded

NEWS EXPRESS	April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

PRIORITY APPLN. INFO.: US 2000-220096P P 20000721
US 2001-910697 A 20010720
WO 2001-US23079 W 20010720

TI Cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces

AB Surfaces contg. high purity **silica** (silicon dioxide) exhibit high loading potential for **nucleic acids**. Formulations contg. **nucleic acids** and materials which mask the electrostatic interactions between the **nucleic acids** and surfaces are disclosed. By masking the phosphate charges of the **nucleic acids**, undesired interactions may be minimized or eliminated, thereby allowing the covalent bonding of the **nucleic acids** to the surface to proceed. The use of such formulations addnl. minimizes nonspecific binding of the **nucleic acids** to the surface. Examples of materials to be included in such formulations include cations, **xanthines**, hexoses, purines, arginine, lysine, polyarginine, polylysine, and quaternary ammonium salts.

ST **nucleic acid** covalent bond **silica** surface electrostatic interaction cation

IT Electrostatic force
(attractive, minimization of, by phosphate group masking; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Spheres
(beads; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Cations
Immobilization, molecular
(cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Hexoses
Quaternary ammonium compounds, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Glass beads
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Bond
(covalent; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Attractive force
(electrostatic, minimization of, by phosphate group masking; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT DNA
Nucleic acids
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(immobilization of; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Oligonucleotides
RL: SPN (Synthetic preparation); PREP (Preparation)
(immobilized; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Phosphate group
(masking of phosphate groups to reduce nonspecific binding; cationic

materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Molecular association
(nonspecific, minimizing of; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT Synthetic fibers
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(**silica**; cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT 50-44-2, 6-Thiohypoxanthine 50-99-7, Glucose, uses 56-37-1, Benzyltriethyl ammonium chloride 56-87-1, Lysine, uses 56-93-9, Benzyltrimethyl ammonium chloride 57-48-7, Fructose, uses 58-08-2, Caffeine, uses 58-63-9, Inosine 59-23-4, Galactose, uses 68-94-0, Hypoxanthine 69-89-6, **Xanthine** 74-79-3, L-Arginine, uses 75-57-0, Tetramethyl ammonium chloride 83-67-0, 3,7-Dimethylxanthine 87-79-6, Sorbose 104-74-5, N-Lauryl pyridinium chloride 120-73-0, Purine 146-80-5, Xanthosine 519-32-4, 1,3,9-Trimethylxanthine 552-62-5, 7-Methylxanthine 574-25-4 611-59-6, 1,7-Dimethylxanthine 628-13-7D, Pyridinium chloride, N-alkyl derivs. 652-37-9 890-38-0, 2'-Deoxyinosine 1076-22-8, 3-Methylxanthine 1198-33-0, 9-Methylxanthine 1643-19-2, Tetrabutyl ammonium bromide 2002-59-7, 6-Thioxanthine 2036-13-7, 6-Purinecarbonitrile 3458-28-4, Mannose 5137-55-3, Trioctylmethyl ammonium chloride 5270-30-4 5437-25-2, 2,6-Dithiopurine 5438-71-1, 8-(3-Carboxypropyl)-1,3-dimethylxanthine 5987-68-8, Altrose 6038-51-3, Allose 6136-37-4, 1-Methylxanthine 6739-64-6, Nicotinamide hypoxanthine dinucleotide phosphate 14114-46-6, 3,7-Dimethyl-1-propargylxanthine 15837-08-8, 3,9-Dimethylxanthine 17338-96-4, 8-Methylxanthine 17598-81-1, Tagatose 23616-79-7, Benzyltributyl ammonium chloride 24937-47-1, Polyarginine 25104-18-1, Polylysine 25212-18-4, Polyarginine 28822-58-4, 3-Isobutyl-1-methylxanthine 30077-17-9, Talose 31542-51-5 31542-63-9, 1,3-Dipropyl-7-methylxanthine 31617-39-7, 1,3-Diethyl-7-methylxanthine 32503-27-8, Tetrabutyl ammonium hydrogensulfate 33073-01-7, 1,9-Dimethylxanthine 35873-49-5, 8-Cyclopentyl-1,3-dimethylxanthine 38000-06-5, Polylysine 41078-02-8, 3-Propylxanthine 55242-55-2, 3-Methyl-1-(5-oxohexyl)-7-propylxanthine 59840-67-4 70332-31-9 75922-48-4, 1,3-Diethyl-8-phenylxanthine 78033-08-6, 8-Methoxymethyl-3-isobutyl-1-methylxanthine 89073-57-4, 1,3-Dipropyl-8-p-sulfophenylxanthine 91725-06-3 96654-24-9 102146-07-6, 8-Cyclopentyl-1,3-dipropylxanthine 103258-00-0 135462-23-6 149981-23-7 149981-25-9 194802-32-9 195522-91-9 197456-29-4 199190-66-4 392687-18-2 392687-19-3 392687-20-6 392687-21-7
RL: NUU (Other use, unclassified); USES (Uses)
(cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

IT 7631-86-9, **Silica**, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(cationic materials and methods for covalent bonding **nucleic acids** to high purity **silica** surfaces)

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:284148 CAPLUS
DOCUMENT NUMBER: 134:306118
TITLE: Template-dependent ligation with PNA-DNA chimeric probes
INVENTOR(S): Egholm, Michael; Chen, Caifu
PATENT ASSIGNEE(S): PE Corporation, USA
SOURCE: PCT Int. Appl., 66 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001027326	A2	20010419	WO 2000-US27730	20001006
WO 2001027326	A3	20020510		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6297016	B1	20011002	US 1999-416003	19991008
EP 1220953	A2	20020710	EP 2000-968853	20001006
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003511059	T2	20030325	JP 2001-529456	20001006
US 6469151	B1	20021022	US 2001-881557	20010614
US 2002177133	A1	20021128		

PRIORITY APPLN. INFO.: US 1999-416003 A 19991008
WO 2000-US27730 W 20001006

AB The invention provides methods, kits, and compns. for ligation of peptide-**nucleic acid** (PNA)-DNA chimeric probes and oligonucleotides when they are hybridized adjacently to template **nucleic acids** using ligases and ligation reagents. The invention is based in part on the discovery that a ligase enzyme can ligate a PNA-DNA chimeric probe and a second probe under a broad range of exptl. conditions and variables. Structural requirements of the chimeras for ligation include 5 to 15 contiguous PNA monomer units, 2 or more contiguous nucleotides, and a 3' hydroxyl or 5' hydroxyl terminus. The chimera and/or oligonucleotide may be labeled with fluorescent dyes or other labels. The methods include, for example, oligonucleotide-ligation assays (OLA) and single nucleotide polymorphism detection.

ST PNA DNA chimeric probe ligation oligonucleotide; peptide **nucleic acid** DNA chimera ligation oligonucleotide

IT Genetic methods
(OLA (oligonucleotide ligation assay); template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT Cyanine dyes
(fluorescent dye label; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT Genetic polymorphism
(single nucleotide, detection of; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT Glass, uses
Polyamides, uses
Silica gel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(solid support; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT Test kits
(template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT DNA
Oligodeoxyribonucleotides
Peptide **nucleic acids**
Probes (**nucleic acid**)
RNA

RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 76823-03-5, FAM
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(FAM, fluorescent dye label; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 155911-16-3, HEX
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(HEX, fluorescent dye label; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 51-28-5, 2,4-Dinitrophenol, biological studies 57-88-5, Cholesterol, biological studies 58-85-5, Biotin 1672-46-4, Digoxigenin 2321-07-5, Fluorescein
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(affinity ligand; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 69-89-6D, **Xanthine**, arom.-substituted 596-12-3 82855-40-1, JOE 120718-39-0, ROX 120718-52-7, TAMRA 192230-82-3, TET 278175-13-6
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(fluorescent dye label; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 569-64-2, Malachite Green 6268-49-1 56512-49-3, DABSYL chloride 245106-84-7, NTB 335277-36-6, d-TAMRA
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(fluorescent quencher; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 1438-30-8, Netropsin 23491-45-4, Hoechst 33258 39389-47-4, Distamycin 114309-58-9
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(minor groove binder; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 868-77-9 7631-86-9, **Silica**, uses 9002-88-4, Polyethylene 9003-01-4, Polyacrylic acid 9003-05-8, Polyacrylamide
RL: TEM (Technical or engineered material use); USES (Uses)
(solid support; template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

IT 65-71-4D, Thymine, PNA-DNA chimera contg. 66-22-8D, Uracil, PNA-DNA chimera contg., biological studies 68-94-0D, Hypoxanthine, PNA-DNA chimera contg. 71-30-7D, Cytosine, PNA-DNA chimera contg. 73-24-5D, Adenine, PNA-DNA chimera contg. 73-40-5D, Guanine, PNA-DNA chimera contg. 135-67-1D, Phenoxazine, PNA-DNA chimera contg. 489-59-8D, Isocytidine, PNA-DNA chimera contg. 1450-85-7D, 2-Thiopyrimidine, PNA-DNA chimera contg. 1500-85-2D, 7-Deazaadenine, PNA-DNA chimera contg. 1818-71-9D, Isoguanosine, PNA-DNA chimera contg. 1904-98-9D, 2,6-Diaminopurine, PNA-DNA chimera contg. 4562-27-0D, 4(3H)-Pyrimidone, PNA-DNA chimera contg. 7355-55-7D, 7-Deazaguanine, PNA-DNA chimera contg. 13230-97-2D, 8-Oxopurine, PNA-DNA chimera contg. 24123-14-6D, N-2-Aminoethylglycine, PNA-DNA chimera contg. 57100-18-2D, Pseudoisocytidine, PNA-DNA chimera contg. 335084-02-1D, PNA-DNA chimera contg.
RL: BPR (Biological process); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); PROC (Process); USES (Uses)
(template-dependent ligation with PNA (peptide-**nucleic**

acid)-DNA chimeric probes)

IT 9015-85-4, DNA ligase 37211-65-7, Polynucleotide kinase 37353-39-2, RNA ligase
RL: CAT (Catalyst use); USES (Uses)
(template-dependent ligation with PNA (peptide-**nucleic acid**)-DNA chimeric probes)

L3 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:131163 CAPLUS
DOCUMENT NUMBER: 134:168379
TITLE: Preparation of time-specific controlled-release capsule formulations containing a swellable polymeric coating layers
INVENTOR(S): Busetti, Cesare; Crimella, Tiziano
PATENT ASSIGNEE(S): Italy
SOURCE: U.S., 11 pp., Cont.-in-part of U.S. 5,891,474.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6190692	B1	20010220	US 1997-991814	19971216
US 5891474	A	19990406	US 1997-790530	19970129

PRIORITY APPLN. INFO.: US 1997-790530 A2 19970129
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The time-specific controlled-release capsule formulations comprise (a) a core contg. a liq. form of a pharmaceutically active agent to be delivered, and (b) a swellable polymeric coating layer substantially surrounding the core. The swellable polymeric coating layer delays the release of the pharmaceutically active agent from the core for a predetd. period of time dependent upon the thickness of the swellable polymeric coating layer. The swellable polymeric coating layer surrounding the core is provided by a new method which includes alternately (i) wetting the core with a binder soln., and (ii) coating the core with powd. polymeric particles a sufficient no. of times to produce a time-specific dosage formulation having the desired thickness of swellable polymeric coating layer. For example, 40 mg of verapamil HCl, 129 mg of dibasic calcium phosphate dihydrate, 20 mg of microcryst. cellulose, and 10 mg of sodium starch glycolate, were mixed thoroughly. Magnesium stearate (1 mg) is added and thoroughly mixed for another 5 min. The granular mixt. is formed into tablet cores of 6.8 mm diam., weighing 200 mg each using a rotary tablet press. The cores show a disintegration time lower than 5 min. in water, a Schleuninger hardness higher than 10 kp and a friability lower than 0.1 %. The cores are heated to 400.degree. and the coating layer is applied onto the cores in a two-step procedure, using an automatic coating pan. In the first step, the cores are wetted with a binder soln. contg. 5% Methocel E5, 10% polyvinylpyrrolidone, and 85% purified water. In the second step, the wetted cores were treated with a dry mixt. including 90% Methocel K15M, 9% talc and 1% colloidal **silica**. Steps 1 and 2 are repeated until a wt. gain corresponding to 50% of total tablet wt. is achieved. The coated tablets showed a dissoln. time lag in excess of 300 min., followed by a quick disintegration of the tablet.

IT Biopolymers
Gelatins, biological studies
Nucleic acids
Peptides, biological studies
Phosphatidylcholines, biological studies
Polymers, biological studies
Polyoxyalkylenes, biological studies

Steroids, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of time-specific controlled-release capsules comprising drug-contg. core and swellable polymeric coatings)

IT 7631-86-9, **Silica**, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(colloidal; prepn. of time-specific controlled-release capsules comprising drug-contg. core and swellable polymeric coatings)

IT 50-70-4, Sorbitol, biological studies 56-81-5, Glycerol, biological studies 57-88-5, Cholesterol, biological studies 58-95-7, Tocopherol acetate 63-42-3, Lactose 64-17-5, Ethyl alcohol, biological studies 69-89-6D, **Xanthine**, derivs. 79-10-7D, Acrylic acid, esters, polymers 79-41-4D, Methacrylic acid, esters, copolymers 110-16-7, Maleic acid, biological studies 110-27-0, Isopropyl myristate 111-90-0 152-11-4, Verapamil hydrochloride 361-09-1, Sodium cholate 557-04-0, Magnesium stearate 846-49-1, Lorazepam 7789-77-7, Calcium phosphate dihydrate 9000-01-5, Arabic gum 9000-30-0, Guar gum 9000-69-5, Pectin 9002-89-5, Polyvinyl alcohol 9003-01-4, Poly(acrylic acid) 9003-39-8, Polyvinylpyrrolidone 9004-10-8, Insulin, biological studies 9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl cellulose 9004-65-3, Hydroxypropyl methyl cellulose 9063-38-1, Sodium starch glycolate 9087-70-1, Aprotinin 11138-66-2, Xanthan gum 14807-96-6, Talcum, biological studies 15307-79-6, Diclofenac sodium 16051-77-7, Isosorbide-5-mononitrate 18641-57-1, Glyceryl behenate 22260-51-1, Bromocryptine mesylate 25322-68-3, PEG 33419-42-0, Etoposide 47931-85-1, Salmon calcitonin 59865-13-3, Cyclosporin A 65381-09-1, Caprylic/capric triglyceride 65381-09-1D, Caprylic/capric triglyceride, ethoxylated 83138-62-9, Polyglyceryl isostearate 106392-12-5, Poloxamer
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(prepn. of time-specific controlled-release capsules comprising drug-contg. core and swellable polymeric coatings)

L3 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:384565 CAPLUS
DOCUMENT NUMBER: 133:28236
TITLE: Methods and compositions for performing an array of chemical reactions on a support surface
INVENTOR(S): Zebala, John A.
PATENT ASSIGNEE(S): Syntrix Biochip, Inc., USA
SOURCE: PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000033084	A2	20000608	WO 1999-US28021	19991123
WO 2000033084	A3	20000810		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2000018317	A5	20000619	AU 2000-18317	19991123
EP 1163374	A2	20011219	EP 1999-961813	19991123
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

JP 2002531470 T2 20020924 JP 2000-585669 19991123
PRIORITY APPLN. INFO.: US 1998-110527P P 19981201
US 1999-326479 A 19990604
WO 1999-US28021 W 19991123

ST support array chem reaction photoresist; ligand array; DNA hybridization immobilized probe; ACE inhibitor screening enalaprilat analog solid phase synthesis; **nucleic acid** array

IT **Nucleic acid** hybridization
(DNA-DNA; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Adhesives
Analysis
Chromatography
DNA sequence analysis
Diagnosis
Drug screening
Electrophoresis
Human immunodeficiency virus
Indicators
Mass spectrometry
NMR spectroscopy
Negative photoresists
Nucleic acid hybridization
PCR (polymerase chain reaction)
Photoresists
Positive photoresists
Protein sequence analysis
RNA sequence analysis
Radiation
Reactors
Solvents
Surface
Synthesis
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Probes (**nucleic acid**)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Peptide **nucleic acids**
RL: ARG (Analytical reagent use); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT **Nucleic acids**
Polynucleotides
Proteins, general, reactions
Reagents
RL: ARG (Analytical reagent use); DEV (Device component use); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT Peptides, reactions
RL: ARG (Analytical reagent use); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); ANST (Analytical study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(**nucleic acid** mimics; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT 51-20-7, 5-Bromouracil 51-21-8, 5-Fluorouracil 58-63-9, Inosine

65-71-4, Thymine 66-22-8, Uracil, uses 66-22-8D, Uracil, pseudo-, derivs., uses 68-94-0, Hypoxanthine 69-89-6, **Xanthine** 71-30-7, Cytosine 73-24-5, Adenine, uses 73-40-5, Guanine 141-90-2, Thiouracil 333-49-3, 2-Thiocytosine 443-72-1 504-07-4, Dihydrouracil 554-01-8, 5-Methylcytosine 578-76-7, 7-Methylguanine 591-28-6, 4-Thiouracil 636-26-0, 5-Methyl-2-thiouracil 696-07-1, 5-Iodouracil 938-85-2, 1-Methylguanine 1445-08-5, 2-Methyladenine 1445-15-4 1500-85-2, 7-Deazaadenine 1820-81-1, 5-Chlorouracil 1904-98-9, 2,6-Diaminopurine 2140-73-0, 1-Methylinosine 2365-40-4, N6-Isopentenyladenine 4776-08-3, 3-Methylcytosine 5142-22-3, 1-Methyladenine 6623-81-0, 5-Methoxyuracil 7355-55-7, 7-Deazaguanine 10030-78-1 14631-20-0 14886-75-0 20758-33-2 31458-37-4 72704-66-6 273752-46-8 273752-47-9 273752-48-0 273752-50-4 273752-52-6
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(array of nucleobase polymers contg.; methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

IT 7631-86-9, **Silica**, uses
RL: DEV (Device component use); USES (Uses)
(methods and compns. for performing arrays of chem. reactions on support surfaces using photoresists)

L3 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:507908 CAPLUS
DOCUMENT NUMBER: 122:265933
TITLE: Preparation of pyranose nucleoside derivatives as antiviral and antitumor agents
INVENTOR(S): Waga, Toshiaki; Meguro, Hiromu; Oorui, Hiroshi
PATENT ASSIGNEE(S): Asahi Breweries Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06263793	A2	19940920	JP 1993-139791	19930304

PRIORITY APPLN. INFO.: JP 1993-139791 19930304
OTHER SOURCE(S): MARPAT 122:265933
AB The title compds. (I; B = adenine, guanine, thymine, uracil, cytosine, hypoxanthine, **xanthine**, 5-methylcytosine, 4-ethoxy-5-methyl-2-oxopyrimidine, 4-isopropoxy-5-methyl-2-oxopyrimidine, 5-methyl-2-oxopyrimidine; R1, R2 = H, OH; or R1R2 = bond; R3 = Q wherein n = 0,1,3; R4 = H, lower alkoxy) or pharmacol. acceptable esters, ethers, or salts thereof are prepd. as antiviral and antitumor agents, particularly potential anti-HIV agents (no data), are prepd. Thus, 2.0 g adenine and 2.0 g K2CO3 were suspended in 100 mL DMF and after stirring at 80.degree. for 1 h, 2.0 g 18-crown-6 ether and Me 2,3-anhydro-4,6-O-benzylidene-.alpha.-D-allopyranoside were added followed by stirring the resulting mixt. at 120.degree. for 16 h to give, after **silica** gel chromatog., 91% adenylaltropyranoside deriv. (II; RR = CHPh).
IT 3150-15-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation with **nucleic acid** bases in prepn. of pyranose nucleoside derivs. as antiviral and antitumor agents)

L3 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:423983 CAPLUS
DOCUMENT NUMBER: 119:23983
TITLE: Optimized separation of purine bases and nucleosides in human cord plasma by capillary zone electrophoresis

AUTHOR(S): Grune, Tilman; Ross, Gordon A.; Schmidt, Heike; Siems, Werner; Perrett, David
CORPORATE SOURCE: Institute of Biochemistry, Medical Faculty (Charite), Humboldt University, Hessische Strasse 3-4, Berlin, O-1040, Germany
SOURCE: Journal of Chromatography (1993), 636(1), 105-11
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An optimized sepn. of the main purine compds. of human serum by capillary zone electrophoresis is presented. Sepns. were performed in an uncoated **silica** capillary (44 cm .times. 75 .mu.m inner diam., 37 cm to window) on a SpectraPhoresis 1000 system with UV detection. The sepn. of adenine (Ade), adenosine (Ado), guanine (Gua), guanosine (Guo), hypoxanthine (Hyp), inosine (Ino), **xanthine** (Xan), and uric acid (UA) was optimized with respect to pH, temp., applied potential, and hydrodynamic injection time. Optimum conditions were 20 mM borate buffer (pH 9.4), 37.degree., 20 kV and 9 s load and detection at 260 nm. Linearity extended from 1 to 125 .mu.M. The sensitivity of the method was 0.5 .mu.M, which is adequate for measuring Ade, Gua, Hyp, and UA in plasma samples. Plasma samples from newborns were pptd. with an equal vol. of HClO4 (7%, vol./vol.), the supernatant was adjusted to neutral pH with K carbonate and, before injection, the sample was alkalized with NaOH. The method presented here allows the detn. of Ade, Guo, Hyp, and UA. The levels of the detd. purines were compared in samples from control newborns, preterm babies, and newborns with asphyxia or acidic serum pH values.

IT **Nucleic acid** bases
Nucleosides, analysis
RL: PROC (Process)
(purine, sepn. of, of newborn plasma by capillary zone electrophoresis)

IT 58-61-7, Adenosine, analysis 58-63-9, Inosine 68-94-0, Hypoxanthine 69-89-6, **Xanthine** 69-93-2, Uric acid, analysis 73-24-5, Adenine, analysis 73-40-5, Guanine 118-00-3, Guanosine, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. and sepn. of, from purine bases and nucleosides of newborn plasma by capillary electrophoresis)

L3 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1984:628477 CAPLUS
DOCUMENT NUMBER: 101:228477
TITLE: Separation of nucleobases on polar amino cyano high-performance liquid chromatography columns
AUTHOR(S): Joshua, Henry; Goetz, Michael
CORPORATE SOURCE: Merck Sharp and Dohme Res. Lab., Rahway, NJ, 07065, USA
SOURCE: Journal of Chromatography (1984), 303(1), 185-9
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The use of a polar amino cyano (PAC) HPLC column in conjunction with buffered water-acetonitrile (8:92) eluents affords a viable alternative to the std. reversed-phase, **silica** gel and ion-exchange methods for the chromatog. sepn. of nucleobases. A Whatman PAC column (Partisil PXS 5/25 PAC, 25 cm .times. 4.6 mm, 5 .mu.m particle size) was used equipped with an Upchurch C-130 precolumn packed with Whatman Co-Pell PAC 30-38 .mu.m particles. Seven nucleobases (adenine [73-24-5], cytosine [71-30-7], guanine [73-40-5], hypoxanthine [68-94-0], thymine [65-71-4], uracil [66-22-8], and **xanthine** [69-89-6]) were successfully sepd. Changes in the eluent pH values were found to affect the selectivity and capacity factors for the nucleobases. Thus effects were esp. pronounced with **xanthine**. The method is useful for the sepn. of nucleobases from fermn. broth exts.

ST **nucleic acid** base sepn polar HPLC; amino cyano

chromatog adenine cytosine guanine

IT Fermentation
(**nucleic acid** bases, sepn. after, by polar aminocyano high-performance liq. chromatog.)

IT **Nucleic acids**
RL: PROC (Process)
(bases, sepn. of, from fermn. broth by polar amino cyano high-performance liq. chromatog.)

IT Chromatography, column and liquid
(high-performance, **nucleic acid** bases sepn. from fermn. broth by, on polar amino cyano stationary phase)

L3 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1968:48556 CAPLUS
DOCUMENT NUMBER: 68:48556
TITLE: Mode of action of the chemosterilants, 2-imidazolidinone and 4-imidazolin-2-one, in the housefly and in the large milkweed bug
AUTHOR(S): Schaefer, Charles Herbert
CORPORATE SOURCE: Shell Develop. Co., Modesto, CA, USA
SOURCE: Life Sciences (1967), 6(24), 2677-83
CODEN: LIFSAK; ISSN: 0024-3205
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An anal. method was developed for detecting 2-imidazolidinone (I) and 4-imidazolin-2-one (II) in insect tissues and feces after injection of 5 .mu.g. I or II into female houseflies or large milkweed bugs, Oncopeltus fasciatus. Insects were homogenized and the homogenate or feces were extd. with MeOH. After evapn., the residue was added to a H2O-CHCl3 mixt., centrifuged, the aq. phase extd. with CHCl3, sepd., and evapd. onto **silica** gel. Exts. were subjected to column chromatog. and thin-layer chromatog. Excretion plus metabolism eliminated 84% of a 5-.mu.g. dose of I and 76% of II within 24 hrs. after injection into houseflies; these 2 compds. are temporary sterilants in this species. The nature of the metabolites of either compd. was not detd. Large milkweed bugs were apparently unable to detoxify either compd. and there was no trace of either in the feces at 48 hrs. after injection; both I and II produce permanent sterility in this species. An attempt was made to det. the mode of action of II in houseflies by feeding the lowest level that inhibited reproduction in the presence of potential reversers; none of the natural biochem. intermediates tested (vitamins, glycine, histamine, inosinic acid, orotic acid, cytidine, adenine, cytidylic acid, adenylic acid, deoxyadenosine, **xanthine**, RNA, oleic acid, .beta.-sitosterol, and cholesterol) had any effect on the sterilant activity of II. No synergism was apparent when either compd. was fed in the presence of 0.2% sesamex or when II was given in the presence of 1% H3BO3. II may inhibit the formation of complex mols. such as proteins or **nucleic acids** rather than that of simple mols.; the mode of action of II is complex and may also involve interference with endocrine regulation.

=> d his

(FILE 'HOME' ENTERED AT 16:47:21 ON 13 JUL 2003)

FILE 'BIOSIS, CAPLUS, BIOTECHNO' ENTERED AT 16:47:30 ON 13 JUL 2003
L1 437637 S SILICA
L2 1076 S L1 AND NUCLEIC ACID
L3 8 S L2 AND XANTHINE

=> s l1(w)gel
L4 88477 L1(W) GEL

=> s l4 and nucleic acid
   2 FILES SEARCHED...
L5   306 L4 AND NUCLEIC ACID

=> s l4 and nucleic acid purification
L6   17 L4 AND NUCLEIC ACID PURIFICATION

=> d 1-17 l6 ibib kwic

L6   ANSWER 1 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:125720 BIOSIS
DOCUMENT NUMBER: PREV200200125720
TITLE: **Nucleic acid purification**
                    using **silica gel** and glass particles.
AUTHOR(S):   Padhye, V. V; York, C.; Burkiewicz, A.
CORPORATE SOURCE: Madison, Wis. USA
                    ASSIGNEE: PROMEGA CORPORATION
PATENT INFORMATION: US 5808041 Sept. 15, 1998
SOURCE: Official Gazette of the United States Patent and Trademark
                    Office Patents, (Sept. 15, 1998) Vol. 1214, No. 3, pp.
                    3017.
                    ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
TI   **Nucleic acid purification** using
     silica gel and glass particles.
IT   Miscellaneous Descriptors
        BIOTECHNOLOGY; GLASS PARTICLE; **NUCLEIC ACID**
        PURIFICATION; SILICA GEL

L6   ANSWER 2 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:82283 BIOSIS
DOCUMENT NUMBER: PREV200200082283
TITLE: **Nucleic acid purification** on
                    silica gel and glass mixtures.
AUTHOR(S):   Padhye, V. V; York, C.; Burkiewicz, A.
CORPORATE SOURCE: Madison, Wis. USA
                    ASSIGNEE: PROMEGA CORPORATION
PATENT INFORMATION: US 5658548 Aug. 19, 1997
SOURCE: Official Gazette of the United States Patent and Trademark
                    Office Patents, (Aug. 19, 1997) Vol. 1201, No. 3, pp. 2038.
                    ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
TI   **Nucleic acid purification** on **silica**
     gel and glass mixtures.
IT   Miscellaneous Descriptors
        BIOTECHNOLOGY; GLASS; METHODS; **NUCLEIC ACID**
        PURIFICATION; SILICA GEL

L6   ANSWER 3 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:371571 BIOSIS
DOCUMENT NUMBER: PREV200100371571
TITLE: Endotoxin reduction in **nucleic acid**
                    purification.
AUTHOR(S):   Smith, Craig E.; Creswell, Donald A. (1); Bitner, Rex M.;
                    White, Douglas H.; Butler, Braeden L.; Lesley, Scott A.
CORPORATE SOURCE: (1) Cottage Grove, WI USA
                    ASSIGNEE: Promega Corporation
PATENT INFORMATION: US 6194562 February 27, 2001
SOURCE: Official Gazette of the United States Patent and Trademark
                    Office Patents, (Feb. 27, 2001) Vol. 1243, No. 4, pp. No
                    Pagination. e-file.
                    ISSN: 0098-1133.

DOCUMENT TYPE: Patent
LANGUAGE: English
TI Endotoxin reduction in **nucleic acid purification**.
AB. . . solutions contaminated with endotoxins from external sources. The present method removes endotoxins from such solutions using silica-based materials, such as **silica gel** particles, magnetic silica particles, or diatomaceous earth. In a preferred aspect of the method of this invention, magnetic silica particles. . .
IT Major Concepts
Molecular Genetics (Biochemistry and Molecular Biophysics); Methods and Techniques
IT Chemicals & Biochemicals
endotoxins: removal; **nucleic acids**: **purification**; plasmid DNA: isolation; silica-based materials
IT Methods & Equipment
endotoxin removal: purification method; **nucleic acid purification**: purification method

L6 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:429115 CAPLUS
DOCUMENT NUMBER: 137:2749
TITLE: Purification of DNA sequencing reactions using silica magnetic particles
INVENTOR(S): Bjerke, Michael P.; Otto, Paul E.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002044414	A2	20020606	WO 2001-US43364	20011121
WO 2002044414	A3	20030522		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002017784	A5	20020611	AU 2002-17784	20011121

PRIORITY APPLN. INFO.: US 2000-724169 A 20001128
WO 2001-US43364 W 20011121

IT Primers (**nucleic acid**)
RL: REM (Removal or disposal); PROC (Process)
(**purifn.** of DNA sequencing reactions using silica magnetic particles)
IT **Silica gel**, uses
RL: DEV (Device component use); USES (Uses)
(silica magnetic particles of; purifn. of DNA sequencing reactions using silica magnetic particles)

L6 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:51620 CAPLUS
DOCUMENT NUMBER: 136:97266
TITLE: Isolating nucleic acids by selective adsorption and desorption onto silicon dioxide
INVENTOR(S): Weber, Martin; Singer, Thorsten; Cosaert, Sarah

PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002004620	A2	20020117	WO 2001-EP8066	20010712
WO 2002004620	A3	20020718		
W: JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10033991	A1	20020124	DE 2000-10033991	20000712
EP 1299531	A2	20030409	EP 2001-971766	20010712
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRIORITY APPLN. INFO.: DE 2000-10033991 A 20000712
WO 2001-EP8066 W 20010712

ST **nucleic acid purifn** silica sorbent; alkali halide alc **nucleic acid purifn**; chloride isopropanol ethanol **nucleic acid purifn**

IT Glass fibers, uses
Silica gel, uses
RL: DEV (Device component use); USES (Uses)
(as sorbent; isolating nucleic acids by selective adsorption and desorption onto silicon dioxide)

L6 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:824267 CAPLUS
DOCUMENT NUMBER: 133:360593
TITLE: pH-dependent ion exchange matrix and method of synthesis and use for isolation of nucleic acids
INVENTOR(S): Smith, Craig E.; Holmes, Diana L.; Simpson, Daniel J.; Katzhendler, Jehoshua; Bitner, Rex M.; Grosch, Josephine C.
PATENT ASSIGNEE(S): Promega Corp., USA
SOURCE: PCT Int. Appl., 63 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000069872	A2	20001123	WO 2000-US12186	20000505
WO 2000069872	A3	20010215		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6310199	B1	20011030	US 1999-312172	19990514
EP 1179057	A2	20020213	EP 2000-935865	20000505
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 2001014650	A1	20010816	US 2001-813077	20010320

PRIORITY APPLN. INFO.: US 1999-312172 A 19990514
WO 2000-US12186 W 20000505

ST **nucleic acid purifn** pH dependent ion exchange matrix; DNA RNA plasmid purifn pH dependent ion exchange matrix

IT Glass fibers, reactions
Silica gel, reactions
RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(solid support; pH-dependent ion exchange matrix and method of synthesis and use for isolation of nucleic acids)

L6 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:691107 CAPLUS
DOCUMENT NUMBER: 131:296203
TITLE: Removal of endotoxins during purification of nucleic acids from bacterial sources
INVENTOR(S): Smith, Craig E.; Creswell, Donald A.; Bitner, Rex M.; White, Douglas H.; Butler, Braeden L.; Lesley, Scott A.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 49 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9954340	A1	19991028	WO 1999-US8491	19990422
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6194562	B1	20010227	US 1998-64449	19980422
CA 2329067	AA	19991028	CA 1999-2329067	19990422
AU 9936513	A1	19991108	AU 1999-36513	19990422
AU 740145	B2	20011101		
EP 1071695	A1	20010131	EP 1999-918650	19990422
R: BE, CH, DE, FR, GB, IT, LI, NL				
JP 2002512252	T2	20020423	JP 2000-544678	19990422
US 6284470	B1	20010904	US 2000-645133	20000824

PRIORITY APPLN. INFO.: US 1998-64449 A 19980422
WO 1999-US8491 W 19990422
US 1999-134156P P 19990514
US 1999-475958 A3 19991230

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB A novel method for removing contaminating endotoxins from nucleic acids, such as DNA, RNA, or hybrids during purifn. are described. Nucleic acid sources that can be used include, but are not limited to, lysates of Gram-neg. bacteria and nucleic acid solns. contaminated with endotoxins from external sources. The present method removes endotoxins from such solns. using silica-based materials, such as **silica gel** particles, magnetic silica particles, or diatomaceous earth as sorbents. Two sorbents are used, one specific for nucleic acids, and the other specific for the endotoxins in a two-stage process. The first step uses the endotoxin sorbent and the second uses the non-bound material from the first stage and the nucleic acid sorbent. Preferably, the nucleic acids are prepd. in endotoxin-free water without the use of chaotropic agents.

In a preferred aspect of the method of this invention, magnetic silica particles are used to isolate plasmid DNA from a lysate of Gram-neg. bacteria transformed with the plasmid DNA. The preferred sorbents are com. silica matrixes. Application of the disclosed method produces nucleic acids which are sufficiently free of endotoxin contamination to be useful for a variety of different practical applications. Optimization expts. using cleared lysates from Escherichia coli JM109 are reported. Chaotropic agents (guanidine thiocyanate) were shown to inhibit endotoxin binding to the sorbent when the sorbent was pre-equilibrated with the agent, but the effects were less severe when the sorbent was suspended in water and the lysate contained the chaotropic agent. Comparison with prior art methods of endotoxin removal shows that the method of the invention lowers endotoxin concn. by .gtoreq.10-fold over older methods.

ST endotoxin removal **nucleic acid purifn** silica sorbent; plasmid purifn endotoxin removal silica sorbent

IT Diatomite
Glass, uses
Silica gel, uses
RL: DEV (Device component use); USES (Uses)
(as sorbent; removal of endotoxins during purifn. of nucleic acids from bacterial sources)

IT Denaturants
(chaotropic, in **nucleic acid purifn.**; removal of endotoxins during purifn. of nucleic acids from bacterial sources)

IT Chelating agents
(in **nucleic acid purifn.**; removal of endotoxins during purifn. of nucleic acids from bacterial sources)

IT Alcohols, uses
RL: MOA (Modifier or additive use); USES (Uses)
(in **nucleic acid purifn.**; removal of endotoxins during purifn. of nucleic acids from bacterial sources)

IT Salts, uses
RL: MOA (Modifier or additive use); USES (Uses)
(non-chaotropic, in **nucleic acid purifn.**; removal of endotoxins during purifn. of nucleic acids from bacterial sources)

L6 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:607125 CAPLUS
DOCUMENT NUMBER: 131:201804
TITLE: Superparamagnetic adsorbents for purification of nucleic acids by solid-phase extraction
INVENTOR(S): Schubert, Frank; Wambutt, Rolf
PATENT ASSIGNEE(S): AGOWA Gesellschaft fuer Molekularbiologische Technologie m.b.H., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19912799	A1	19990916	DE 1999-19912799	19990310

PRIORITY APPLN. INFO.: DE 1998-19810709 19980312

AB Superparamagnetic **silica gel** adsorbents are prepd. for isolation and purifn. of nucleic acids, DNA and RNA from PCR products and body fluids by solid-phase extn. The paramagnetic substances, e.g., magnetite (Fe3O4) or ferrites, can be pptd. in the pores of the adsorbent or incorporated into the adsorbent matrix by mixing FexOy (2.ltoreq.x.ltoreq.3.5, 3.ltoreq.y.ltoreq.4.5) particles into an aq. alkali silicate soln. followed by addn. of a C1-6-carboxylic acid (e.g.,

glacial acetic acid) for prepn. of the **silica gel**. The **silica gel** may be functionalized. In an example, FeCl2.4H2O and FeCl3.6H2O were dissolved in water and added dropwise to 2M NaOH. The pptd. iron oxide (av. size 80 nm) was sepd. by centrifugation, washed with water, then used in the synthesis of **silica gel** from Na silicate. The resulting paramagnetic **silica gel** was used for purifn. of PCR fragments from plasmid pKS.

ST superparamagnetic adsorbent **nucleic acid purifn**; solid phase extn **nucleic acid purifn**; DNA purifn solid phase extn superparamagnetic adsorbent; RNA purifn solid phase extn superparamagnetic adsorbent

IT **Silica gel**, uses
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(paramagnetic; superparamagnetic adsorbents for purifn. of nucleic acids by solid-phase extn.)

IT DNA
Nucleic acids
Oligonucleotides
RNA
RL: PUR (Purification or recovery); PREP (Preparation)
(**purifn.** of; superparamagnetic adsorbents for purifn. of nucleic acids by solid-phase extn.)

L6 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:604699 CAPLUS
DOCUMENT NUMBER: 129:227825
TITLE: **Nucleic acid purification** using **silica gel** and glass particles
INVENTOR(S): Padhye, Vikas V.; York, Chuck; Burkiewicz, Adam
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: U.S., 13 pp., Cont.-in-part of U.S. Ser. No. 115,504, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5808041	A	19980915	US 1995-485429	19950607
CA 2170604	AA	19950309	CA 1994-2170604	19940830

PRIORITY APPLN. INFO.: US 1993-115504 B2 19930830
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI **Nucleic acid purification** using **silica gel** and glass particles

AB The present invention provides compns. and methods for isolating nucleic acids with lengths greater than about 50 bases, from cells, gels, solns. and other media, in which nucleic acids occur in vivo or in vitro. The compns. of the invention are mixts. of the silica materials **silica gel** and glass particles, particularly glass microfibers; such mixts. combined with chaotropic salts, such as guanidinium chloride or guanidinium thiocyanate; and suspensions of such mixts. in aq. solns. of chaotropic salts. In the methods of the invention, an aq. soln. comprising nucleic acid is mixed with an aq. soln. of chaotropic salts and the resulting soln. is contacted with a mixt. of the silica materials, whereupon the nucleic acid in the soln. binds to the silica materials. The chaotropic salts and components, other than the nucleic acid adsorbed to the silica materials, from the aq. soln. treated by the method of the invention are washed from the silica materials. Finally, the nucleic acid can be obtained by elution from the silica materials. The methods provide

nucleic acid in water or buffer, such as TE buffer, free of contamination by any salt or macromol. that would interfere with further processing or anal.

ST **nucleic acid purifn silica gel** glass

IT Salts, uses
RL: NUU (Other use, unclassified); USES (Uses)
(Chaotropic; **nucleic acid purifn**. using **silica gel** and glass particles)

IT Buffers
Cell
Chelating agents
Gels
Purification
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT Glass, uses
Silica gel, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT DNA
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT RNA
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT 7732-18-5, Water, analysis
RL: ANT (Analyte); ANST (Analytical study)
(**nucleic acid purifn**. using **silica gel** and glass particles)

IT 50-01-1, Guanidinium hydrochloride 60-00-4, Edta, uses 67-42-5, Ethyleneglycolbis(.beta.-aminoethylether)-N,N,N',N'-tetraacetic acid 77-92-9, uses 593-84-0, Guanidinium thiocyanate 650-51-1, Sodium trichloroacetate 7601-89-0, Sodium perchlorate 7681-82-5, Sodium iodide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(**nucleic acid purifn**. using **silica gel** and glass particles)

L6 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:640679 CAPLUS
DOCUMENT NUMBER: 127:259756
TITLE: Process and device for isolating nucleic acids
INVENTOR(S): Lange, Hans
PATENT ASSIGNEE(S): Innova Gesellschaft zur Entwicklung und Vermarktung Innovativer Produkte m.b, Germany; Lange, Hans
SOURCE: PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9734908	A1	19970925	WO 1997-DE517	19970314
W: JP, US				

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

DE 19610354	C1	19971120	DE 1996-19610354	19960315
EP 891369	A1	19990120	EP 1997-920510	19970314
EP 891369	B1	20010816		

R: AT, CH, DE, FR, GB, IT, LI, SE

JP 2001503730	T2	20010321	JP 1997-533034	19970314
AT 204285	E	20010915	AT 1997-920510	19970314
US 6071395	A	20000606	US 1999-142958	19990125
US 6232464	B1	20010515	US 1999-384936	19990827

PRIORITY APPLN. INFO.: DE 1996-19610354 A 19960315
WO 1997-DE517 W 19970314
US 1999-142958 B3 19990125

AB A device is disclosed for purifying and concg. nucleic acids from biol. fluids and suspensions which contain nucleic acids prior to, e.g., their anal. by PCR. In the device, a reaction chamber contg. an adsorbent (e.g., **silica gel**, glass particles, glass fibers, or ion exchanger) is connected to a discharge chamber and the nucleic acids can, by means of an electrophoresis device, be transferred from the reaction chamber to the discharge chamber and concd. After purifn. of the nucleic acids, processes such as hybridization, amplification, and chemiluminescence detection can be performed.

ST **nucleic acid purifn** adsorption electrophoresis app

IT Immunoglobulins
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(G, biotinylated; **nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Recombination, genetic
(amplification; **nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Thermal cycling
(app.; **nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Proteins, specific or class
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(ligand-binding; **nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Adsorbents
Adsorption apparatus
Blood
Blood plasma
Body fluid
Chemiluminescence spectroscopy
Computer application
Computer program
Electric conductors
Electrodes
Electrophoresis apparatus
Ion exchangers
Magnetic field
Magnetic particles
Magnets
Membranes, nonbiological
Microtiter plates
Nucleic acid hybridization
Photomultipliers
Pipets
Pumps
(**nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Antibodies
Antigens
Biopolymers

Glass, uses
Glass fibers, uses
Ligands
Metals, uses
Oligonucleotides
Peptide nucleic acids
Receptors
Silica gel, uses
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(**nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT DNA
Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT Plastics, uses
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(thermoplastics; **nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT 7439-89-6, Iron, uses 7440-22-4, Silver, uses 7782-42-5, Graphite, uses 9012-36-6, Agarose
RL: DEV (Device component use); NUU (Other use, unclassified); USES (Uses)
(**nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

IT 117710-36-8DP, IgG conjugates
RL: NUU (Other use, unclassified); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(**nucleic acids purifn.** and concn. with adsorption/electrophoresis app.)

L6 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:574440 CAPLUS
DOCUMENT NUMBER: 127:201746
TITLE: **Nucleic acid purification** on **silica gel** and glass mixtures
INVENTOR(S): Padhye, Vikas V.; York, Chuck; Burkiewicz, Adam
PATENT ASSIGNEE(S): Promega Corp., USA
SOURCE: U.S., 12 pp., Cont.-in-part of U.S. Ser. No. 115,504, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5658548	A	19970819	US 1995-476849	19950607
US 5658548	C1	20010724		
CA 2170604	AA	19950309	CA 1994-2170604	19940830

PRIORITY APPLN. INFO.: US 1993-115504 B2 19930830

TI **Nucleic acid purification** on **silica gel** and glass mixtures

AB Nucleic acids with lengths greater than about 50 bases are isolated from cells, gels, solns. and other media, in which nucleic acids occur in vivo or in vitro, by using mixt. of **silica gel** and glass microfibers combined with chaotropic salts such as guanidinium chloride or guanidinium thiocyanate. An aq. soln. comprising nucleic acid is mixed with an aq. soln. of chaotropic salts and the resulting soln. is contacted with the above silica-based mixt. whereupon the nucleic acid in the soln. binds to the silica materials. The chaotropic salts and components, other than the nucleic acid adsorbed to the silica materials, are washed from the silica materials and the nucleic acid is obtained by elution. The

methods provide nucleic acid in water or buffer free of contamination by any salt or macromol. that would interfere with further processing or anal.

ST RNA isolation siliceous carrier binding chaotropic; glass RNA isolation chaotropic salt; **silica gel nucleic acid purifn**

IT Glass fibers, biological studies
Silica gel, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**nucleic acid purifn.** on **silica gel** and glass mixts.)

IT DNA
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acid purifn.** on **silica gel** and glass mixts.)

IT RNA
RL: PUR (Purification or recovery); PREP (Preparation)
(**nucleic acid purifn.** on **silica gel** and glass mixts.)

IT 50-01-1, Guanidine hydrochloride 60-00-4, Edta, properties 67-42-5, Egta 139-33-3, Edta disodium salt 593-84-0, Guanidinium thiocyanate 9003-98-9, DNase 142298-75-7, RNase inhibitor
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**nucleic acid purifn.** on **silica gel** and glass mixts.)

L6 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:178962 CAPLUS
DOCUMENT NUMBER: 126:168833
TITLE: Purification, stabilization, or isolation of nucleic acids from biological materials
INVENTOR(S): Mueller, Oliver; Deuter, Rainer
PATENT ASSIGNEE(S): Max-Planck-Gesellschaft Zur Foerderung Der Wissenschaften E.V., Germany
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19530132	A1	19970220	DE 1995-19530132	19950816
DE 19530132	C2	19980716		
CA 2228769	AA	19970227	CA 1996-2228769	19960814
WO 9707239	A1	19970227	WO 1996-EP3595	19960814
W: AU, BR, CA, JP, MX, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9668216	A1	19970312	AU 1996-68216	19960814
AU 712331	B2	19991104		
EP 851937	A1	19980708	EP 1996-928466	19960814
EP 851937	B1	20020403		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
JP 11511020	T2	19990928	JP 1997-508945	19960814
AT 215611	E	20020415	AT 1996-928466	19960814
US 6084091	A	20000704	US 1998-11567	19980211

PRIORITY APPLN. INFO.: DE 1995-19530132 A 19950816
WO 1996-EP3595 W 19960814

AB The invention concerns the purifn., stabilization, and/or isolation of nucleic acids from, e.g., tissues, body fluids, plants, microorganisms, feces as well as foods, sewage sludge, wastewater, etc., by adding a carbohydrate-based adsorption matrix to the nucleic acid-contg. sample in

an appropriate buffer to bind contaminants or impurities. The carbohydrate-based adsorbent can contain, e.g., starch, cellulose, potato flour, etc. The impurities in a nucleic acid-contg. sample can be, e.g., degrdn. products of Hbs and or bile acids or their salts. The sepd. nucleic acids can be treated with enzymes for amplification and/or restriction cleavage reactions. The method may be used to isolate or detect nucleic acids from stool samples as a diagnostic test for tumors of the digestive tract, and esp. of the pancreas or intestine, and for bacterial or viral infections. Reagent kits are also disclosed for the purifn. and stabilization of nucleic acids of biol. materials, and the kits contain buffer, adsorption matrix for binding impurities, mineral carriers (e.g., metal oxides, **silica gel**, zeolites, etc.), and/or org. carriers (e.g., modified latex, synthetic polymers, or their mixts.), and other necessary solns. and accessories. An example is given of the anal. of DNA of human stool samples, comparing the capacities of bovine serum albumin, cellulose, potato starch, and potato flour as adsorption matrix, and potato flour was best.

ST biol material **nucleic acid purifn** adsorbent; feces DNA analysis adsorbent potato flour; tumor diagnosis feces nucleic acid detection; infection diagnosis feces nucleic acid detection; diagnosis nucleic acid detection adsorbent; digestive tract cancer diagnosis DNA detection

IT Hemoglobins
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(degrdn. products; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Potato (Solanum tuberosum)
Potato (Solanum tuberosum)
(flour; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Nucleic acid amplification (method)
(ligase chain reaction; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Digestive tract
(neoplasm; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Nucleic acid amplification (method)
(nucleic acid base-specific amplification; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Adsorbents
Animal tissue
Bacteria (Eubacteria)
Biological materials
Body fluid
Bone marrow
Diagnosis
Feces
Filters
Food analysis
Fossils
Frits
Infection
Intestine, neoplasm
Latex
Membranes, nonbiological
Microorganism
Mutation
Neoplasm
PCR (polymerase chain reaction)
Pancreas, neoplasm
Particles
Plant analysis
Plant tissue

Purification
Soil analysis
Virus
Wastewater treatment
Wastewater treatment sludge
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT DNA
Nucleic acids
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Bile acids
Bile salts
Fibers
Glass, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Oxides (inorganic), analysis
Polymers, analysis
Silica gel, analysis
Zeolites (synthetic), analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Albumins, analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Carbohydrates, analysis
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Gene
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(oncogene; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Flours and Meals
Flours and Meals
(potato flour; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Nucleic acid amplification (method)
(self-sustained sequence replication; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT Gene, animal
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(tumor suppressor; **nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT 7732-18-5, Water, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(**nucleic acids purifn.** and stabilization and isolation from biol. materials)

IT 14808-60-7, Quartz, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(**nucleic acids purifn.** and stabilization
and isolation from biol. materials)
IT 9005-25-8, Potato starch, analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified);
PEP (Physical, engineering or chemical process); ANST (Analytical study);
PROC (Process); USES (Uses)
(**nucleic acids purifn.** and stabilization
and isolation from biol. materials)
IT 9004-34-6, Cellulose, analysis
RL: ARU (Analytical role, unclassified); PEP (Physical, engineering or
chemical process); ANST (Analytical study); PROC (Process)
(**nucleic acids purifn.** and stabilization
and isolation from biol. materials)

L6 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:837638 CAPLUS
DOCUMENT NUMBER: 123:283735
TITLE: Chromatographic removal of endotoxins from macromolecules manufactured by fermentation
INVENTOR(S): Colpan, Metin; Moritz, Peter; Schorr, Joachim
PATENT ASSIGNEE(S): Qiagen GmbH, Germany
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9521179	A1	19950810	WO 1995-EP391	19950203
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 4432654	A1	19960321	DE 1994-4432654	19940914
DE 4432654	C2	19980326		
CA 2182388	AA	19950810	CA 1995-2182388	19950203
CA 2182397	AA	19950810	CA 1995-2182397	19950203
AU 9515777	A1	19950821	AU 1995-15777	19950203
AU 693511	B2	19980702		
WO 9608500	A1	19960321	WO 1995-EP392	19950203
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9516647	A1	19960329	AU 1995-16647	19950203
EP 775150	A1	19970528	EP 1995-907641	19950203
EP 775150	B1	19990428		
R: AT, BE, CH, DE, DK, FR, GB, IE, IT, LI, LU, NL, SE				
EP 781291	A1	19970702	EP 1995-908259	19950203
R: CH, DE, FR, GB, LI				
JP 09508407	T2	19970826	JP 1995-520391	19950203
AT 179425	E	19990515	AT 1995-907641	19950203
US 5747663	A	19980505	US 1996-687522	19960930
US 6274371	B1	20010814	US 1997-809072	19970619
US 2003036175	A1	20030220	US 2002-254845	20020926

PRIORITY APPLN. INFO.:

DE 1994-4403692	A	19940207
DE 1994-4422291	A	19940625
DE 1994-4431125	A	19940901
DE 1994-4432654	A	19940914
WO 1995-EP391	W	19950203
WO 1995-EP392	W	19950203
US 1996-687522	A1	19960930
US 1998-26613	B1	19980220
US 1999-443091	B3	19991118

IT **Nucleic acids**
RL: PUR (Purification or recovery); PREP (Preparation)

(**purifn**. of; chromatog. removal of endotoxins from macromols. manufd. by fermn.)

IT Kieselguhr
Silica gel, uses
RL: NUU (Other use, unclassified); USES (Uses)
(sorbent in prepn. endotoxin-free DNA; chromatog. removal of endotoxins from macromols. manufd. by fermn.)

L6 ANSWER 14 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:341134 CAPLUS
DOCUMENT NUMBER: 122:101132
TITLE: Chromatographic purification and separation of nucleic acid mixtures
INVENTOR(S): Feuser, Petra; Hermann, Ralf; Schorr, Joachim; Colpan, Metin; Bastian, Helge
PATENT ASSIGNEE(S): Diagen Institut fuer Molekularbiologische Diagnostik GmbH, Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4321904	A1	19950112	DE 1993-4321904	19930701
CA 2142910	AA	19950112	CA 1994-2142910	19940624
CA 2142910	C	20020827		
WO 9501359	A1	19950112	WO 1994-EP2056	19940624
W: CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 658164	A1	19950621	EP 1994-922869	19940624
EP 658164	B1	20010404		
R: AT, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, NL, PT, SE				
JP 08501321	T2	19960213	JP 1994-503247	19940624
AT 200293	E	20010415	AT 1994-922869	19940624
ES 2155477	T3	20010516	ES 1994-922869	19940624
US 6383393	B1	20020507	US 1996-392882	19960315

PRIORITY APPLN. INFO.: DE 1993-4321904 A 19930701
WO 1994-EP2056 W 19940624

AB Nucleic acids are sepd. and purified from a nucleic acid mixt. by adsorption from a high-ionic-strength aq. soln. contg. 1-50 vol.% C1-5 aliph. alc., PEG, hydrophobic inorg. and/or org. polymer, and/or Cl3CCO2H onto a porous or nonporous mineral carrier comprising a metal oxide, **silica gel**, glass, or zeolite, washing the adsorbent, and eluting with a soln. of lower ionic strength. Thus, a tissue sample was homogenized in a soln. contg. 4-8M chaotropic salt (e.g. guanidine-HCl, guanidine isothiocyanate, NaI), an org. solvent (e.g. PhOH, CHCl3, Et2O), and detergent, digested with protease, mixed. with 0.5 vol. 95-100% aliph. alc. or PEG, and centrifuged, and the supernatant was passed through an appropriate membrane or gel matrix which was washed with an aq. soln. contg. 100 mM NaCl, 10 mM Tris-HCl (pH 7.5), and 30-80% alc. or PEG to remove impurities. Nucleic acids were then eluted with 10 mM Tris-HCl (pH 9.0) or distd. water for use in PCR.

ST **nucleic acid purifn** chromatog; adsorption
nucleic acid purifn

IT Ceramic materials and wares
Glass, oxide
Glass fibers, uses
Membranes
Oxides, uses
Silica gel, uses
Zeolites, uses

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chromatog. purifn. and sepn. of nucleic acid mixts.)

L6 ANSWER 15 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:444668 CAPLUS
DOCUMENT NUMBER: 119:44668
TITLE: chromatography-based apparatus and method for isolation and purification of nucleic acids
INVENTOR(S): Colpan, Metin
PATENT ASSIGNEE(S): Diagen Institut fuer Moleukularbiologische Diagnostik G.m.b.H., Germany
SOURCE: Ger. Offen., 25 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4139664	A1	19930603	DE 1991-4139664	19911202
WO 9311218	A1	19930610	WO 1992-EP2774	19921201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
WO 9311221	A1	19930610	WO 1992-EP2775	19921201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 616638	A1	19940928	EP 1992-924636	19921201
EP 616638	B1	19960410		
R: BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
EP 616639	A1	19940928	EP 1992-924637	19921201
EP 616639	B1	19981104		
R: BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
JP 07501223	T2	19950209	JP 1993-509824	19921201
JP 3115324	B2	20001204		
EP 875271	A2	19981104	EP 1998-107576	19921201
EP 875271	A3	20010425		
R: BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
JP 2001095572	A2	20010410	JP 2000-223370	19921201
US 6277648	B1	20010821	US 1994-253152	19940602
US 2001047966	A1	20011206	US 2001-900199	20010709

PRIORITY APPLN. INFO.:

DE 1991-4139664	A	19911202
EP 1992-924637	A3	19921201
JP 1993-509824	A3	19921201
WO 1992-EP2774	W	19921201
WO 1992-EP2775	W	19921201
US 1994-253152	A1	19940602

AB Nucleic acids are isolated from cells by disrupting the cells, removing cell debris preferably by filtration, adsorbing the nucleic acids on an anion exchanger in low-ionic-strength buffer, desorbing with a buffer of high ionic strength, adsorbing on an inorg. carrier at high ionic strength, and desorbing with water or low-ionic-strength buffer. A column for the process contains the 2 adsorbents in sep. segments which may be sepd. by a porous sintered glass or ceramic disk or a membrane. Thus, Escherichia coli HB 101 cells contg. plasmid pUC18 were lysed with NaOH-SDS, the lysate was centrifuged, and the supernatant was applied to a centrifugal extn. column contg. a DEAE anion exchanger and **silica g 1**. After centrifugation, the anion exchanger segment was washed to remove RNA and proteins and eluted with 7M NaClO4-15% EtOH-10 mM NaOAc (pH 7.0) directly onto the **silica gel** segment. After washing the **silica gel**, DNA was eluted with 10 mM Tris-HCl-1 mM EDTA (pH 8.0). This DNA could be used directly for restriction cleavage, labeling, sequencing, or amplification.

ST **nucleic acid purifn** chromatog; DNA purifn

chromatog
IT Glass, oxide
Kaolin, uses
Silica gel, uses
Zeolites, uses
RL: ANST (Analytical study)
(**nucleic acid purifn.** by adsorption chromatog. on, ionic strength in relation to)
IT Deoxyribonucleic acids
Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(**purifn.** of, by chromatog. on ion exchanger and inorg. adsorbent)
IT 1314-23-4, Zirconium oxide, properties 1344-28-1, Aluminum oxide, properties 13463-67-7, Titanium dioxide, properties
RL: PRP (Properties)
(**nucleic acid purifn.** by adsorption chromatog. on, ionic strength in relation to)

L6 ANSWER 16 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:118112 CAPLUS
DOCUMENT NUMBER: 114:118112
TITLE: Method for purifying nucleic acids using an adsorbent to remove contaminating proteins
INVENTOR(S): McCormick, Randy Miles
PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9010637	A1	19900920	WO 1989-US902	19890310
W: AU, DK, FI, JP, NO				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
EP 462100	A1	19911227	EP 1989-903325	19890310
EP 462100	B1	19930526		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
JP 04503942	T2	19920716	JP 1989-503163	19890310
JP 2703636	B2	19980126		
AU 8933525	A1	19921224	AU 1989-33525	19890310
AU 632284	B2	19920716		
AT 89827	E	19930615	AT 1989-903325	19890310
DK 9101561	A	19910905	DK 1991-1561	19910905
NO 9103545	A	19910909	NO 1991-3545	19910909
NO 177856	B	19950828		
NO 177856	C	19951206		
FI 95270	B	19950929	FI 1991-4240	19910909
FI 95270	C	19960110		

PRIORITY APPLN. INFO.: EP 1989-903325 19890310
WO 1989-US902 19890310

AB Proteins are sepd. from nucleic acids by contacting the mixt. with a solid phase extn. material capable of binding proteins and then isolating the unbound fraction contg. the nucleic acids. **Silica gel** was treated with HF and rehydrated. The rehydrated gel removed all of the PST, EcoRI, and SalI restriction enzymes from pBR322 DNA, enzyme, and buffer mixts. before the enzymes could cut the DNA. DNA recovery from various rehydrated **silica gels** was 76.1-92.9%.
ST **nucleic acid purifn** protein adsorption; DNA purifn **silica gel**; restriction enzyme removal
silica gel

IT Bacteria
Escherichia coli
(DNA of, purifn. of, from blood, rehydrated **silica gel** removal of proteins in)
IT Blood
(bacterial DNA purifn. from, rehydrated **silica gel** removal of proteins in)
IT Adsorbents
(for protein removal in **nucleic acid purifn**.)
IT **Silica gel**, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of silane-treated, and use in protein removal from nucleic acid)
IT Deoxyribonucleic acids
Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(**purifn**. of, adsorbents for protein removal in)
IT **Silica gel**, compounds
RL: ANST (Analytical study)
(rehydrated, for protein removal in **nucleic acid purifn**.)
IT Albumins, uses and miscellaneous
RL: REM (Removal or disposal); PROC (Process)
(removal of, from DNA, silane-treated **silica gel** for)
IT Plasmid and Episome
(pBR322, DNA of, restriction enzymes removal from, rehydrated **silica gel** in)
IT 7647-01-0, Hydrochloric acid, uses and miscellaneous 7664-39-3, Hydrofluoric acid, uses and miscellaneous 7697-37-2, Nitric acid, uses and miscellaneous
RL: ANST (Analytical study)
(in rehydrated **silica gel** prepn. for protein removal from DNA)
IT 9001-78-9, Alkaline phosphatase 80498-17-5, EcoRI Restriction enzyme 81295-32-1, PST restriction enzyme 81295-38-7, SalI Restriction enzyme
RL: REM (Removal or disposal); PROC (Process)
(removal of, from DNA, rehydrated **silica gel** for)

L6 ANSWER 17 OF 17 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:474361 CAPLUS
DOCUMENT NUMBER: 111:74361
TITLE: Anion exchanger on porous **silica gel** matrix and its use in chromatographic purification of long-chain nucleic acids
INVENTOR(S): Henco, Karsten; Stichel, Arndt; Colpan, Metin
PATENT ASSIGNEE(S): DIAGEN Institut fuer Molekularbiologische Diagnostik G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3639949	A1	19880609	DE 1986-3639949	19861122
EP 268946	A2	19880601	EP 1987-116713	19871112
EP 268946	A3	19900314		
EP 268946	B1	19930915		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 94553	E	19931015	AT 1987-116713	19871112

CA 1339772	A1	19980324	CA 1987-552250	19871119
US 5057426	A	19911015	US 1987-123698	19871123
JP 63150294	A2	19880622	JP 1987-295947	19871124
JP 07013077	B4	19950215		

PRIORITY APPLN. INFO.: DE 1986-3639949 19861122
EP 1987-116713 19871112

TI Anion exchanger on porous **silica gel** matrix and its use in chromatographic purification of long-chain nucleic acids

AB Long-chain nucleic acids are purified from other substances in exts. of gently disrupted cells, body fluids, viruses, etc. by binding to a porous matrix of modified **silica gel** particles, washing out other substances, and elution of the nucleic acids. The matrix comprises silanized **silica gel** particles 15-250 .mu.m in size with pores 100-2500 nm in diam. bearing an anion exchanger, esp. N,N-dimethylaminoethanol linked to the matrix via .gamma.-glycidyloxypropyltrimeyhoxysilane. A suspension of lysed Escherichia coli cells contg. phage .lambda. was centrifuged and the supernatant was passed through a 0.45-.mu.m filter to remove intact cells and cell debris. The suspension was passed through a cartridge contg. the above modified **silica gel** to remove cellular DNA. The phage particles in the eluate were disrupted with 4M urea and passed through a cartridge contg. the above anion exchanger-modified **silica gel**, which bound the phage DNA. The cartridge was washed with 50 mM Tris-HCl buffer (pH 7.5) contg. 0.8M NaCl and 1 mM EDTA, and the phage .lambda. DNA was eluted with the same buffer contg. 1.2M NaCl and 1 mM EDTA and desalted by dialysis or pptn. with EtOH, PEG, or iso-PrOH.

ST **nucleic acid purifn silica gel**; DNA purifn anion exchanger **silica gel**

IT Liver, composition
Sperm
(DNA of, purifn. of, on porous **silica gel** anion exchanger)

IT Anion exchangers
(immobilized, on porous silanized **silica gel**, for **nucleic acid purifn.**)

IT Animal cell
Animal tissue
Bacteria
Body fluid
Plant cell
Plant tissue
Virus
(nucleic acids of, purifn. of, on porous **silica gel** anion exchanger)

IT Plasmid and Episome
(purifn. of, on porous **silica gel** anion exchanger)

IT Deoxyribonucleic acids
Nucleic acids
RL: PUR (Purification or recovery); PREP (Preparation)
(**purifn.** of, on porous **silica gel** anion exchanger)

IT **Silica gel**, compounds
RL: ANST (Analytical study)
(silanized, anion exchanger derivs., **nucleic acids purifn.** on)

IT Virus, animal
(cytomegalo-, DNA of, purifn. of, on porous **silica gel** anion exchanger)

IT Virus, bacterial
(lambda, DNA of, purifn. of, on porous **silica gel** anion exchanger)

IT Virus, animal
(papilloma, DNA of, purifn. of, on porous **silica gel** anion exchanger)